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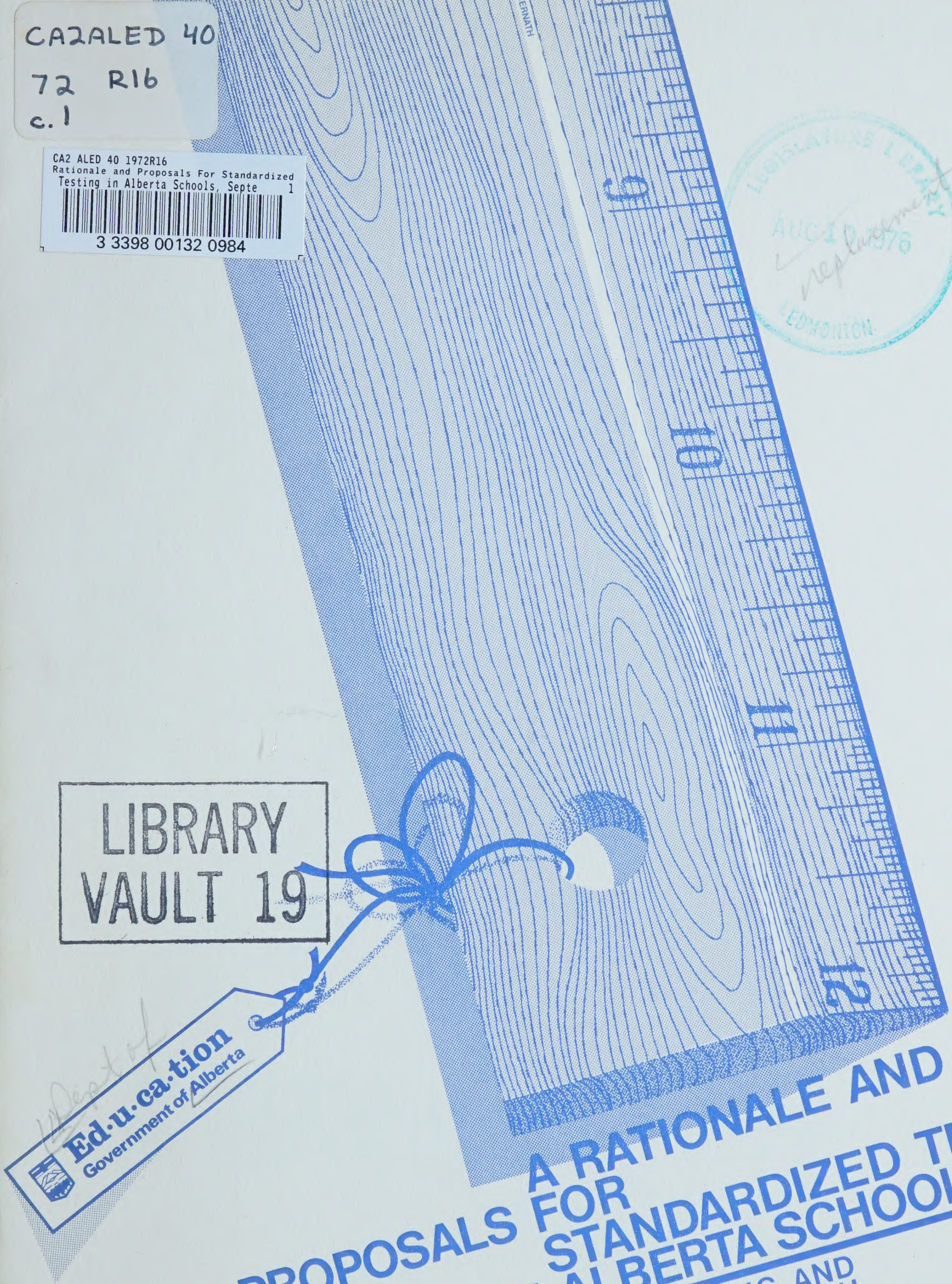

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A RATIONALE AND PROPOSALS FOR STANDARDIZED TESTING IN ALBERTA SCHOOLS

COUNSELLING AND GUIDANCE BRANCH

A
RATIONALE
AND
PROPOSALS
FOR
STANDARDIZED TESTING
IN
ALBERTA SCHOOLS

Department of
Ed·u·ca·tion
Government of Alberta

COUNSELLING AND GUIDANCE BRANCH
SEPTEMBER, 1972.

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PREFACE

"Far too many of our school systems have emphasized conventional measurement and ignored children's learning: forgetting the principle that children and teachers do not get any heavier for being weighed".

Joseph Featherstone in **The New Republic**

Standardized tests are merely tools, neither inherently good nor evil. They can do good if used in the right way and by intelligent people, they can do harm when used in the wrong way or by foolish people. The primary purpose of a school is to foster growth and personal development in young people through a program of instruction and learning. Both the student himself and those who are in charge of his program need as much information as they can possibly obtain. Test results are one of the sources of such information.

The purpose of this book, then, is to provide suggestions as to how standardized tests may be used in the right way. Suggestions are also given as to the particular standardized tests which may be used. They should be treated just as that — suggestions. The committee which compiled this booklet liked the tests which it chose, but there may be others just as good. Also, it would be wrong to assume that the testing program presented in this booklet has the official sanction of the Department of Education. Indeed, as the Department develops a program in evaluation, it may use other standardized tests which it believes will more precisely measure the desired outcomes of instruction. The committee believes that the testing program set forth within these pages is a good program, but it is not the only one. Schools, however, are invited to use all of it or part of it, in the hope that, in the hands of intelligent people, the tests will provide information useful in the task of educating our young people.

THE COMMITTEE

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CHAPTER I

STANDARDIZED TESTING IN SCHOOLS

INTRODUCTION

The aim of measurement in education is to obtain data which will help a student understand himself and develop in a socially acceptable way. A student today must make many more decisions than previously because the educational and vocational alternatives have increased tremendously. In the child's early years institutions make many of his decisions for him. However, as the youngster matures, increasingly more responsibility for making decisions is thrust upon him. The task of the teacher is to make available to the student as much information as possible not only about the student but also about the world in which the student must operate; so that he can make good and wise decisions.

A variety of measurement techniques ranging from standardized tests to teachers' anecdotal records can be used to obtain some of the necessary information for this decision-making process. The purpose of this report is to focus on standardized tests and inventories which might be considered for school use. Standardized measures represent **one** source of information for making sound educational decisions. This report provides information and recommendations with respect to the use of standardized tests.

WHY TEST?

The basic reason for testing is to help students learn better. Optimal learning requires the making of decisions. The following kinds of educational decisions can be facilitated through the use of tests:

1. Teacher decisions
    - broad views of students' needs and performance
    - identification of students for adaptive, remedial or compensatory treatment
    - general pupil placement and groupings
    - determine the degree to which educational objectives are being met.
2. Student decisions
    - developing an accurate and realistic self-concept
    - planning educational and vocational directions.

Perhaps the **major** value of standardized measures is the identification of the entering behavior of a student to a learning situation. Thereafter the dependence upon the variables related to the affective domain and the quality of instruction become priority variables.

Having established the information needs, the next stage is that of selecting suitable instruments.

POTENTIAL HAZARDS IN TESTING

In spite of the potential value of testing, there are inherent dangers to be considered. Tests have been criticized in that they 1) can dictate the nature of curricula 2) can result in an infringement of personal privacy, 3) can be used to categorize and label people and 4) give undue emphasis to comparing students with others. Comparisions are particularly inappropriate between members of a group or of groups whose background environments differ considerably.

Many of these hazards would be removed if: (1) it were made clear that testing is not an end in itself but notably a means to an end, (2) the purposes of testing were clearly spelled out, (3) the limitations of different tests were described (sample behavior, error of measurement), (4) test scores were not used to label people, (5) decisions made on the basis of test scores were made (a) in the context of the limitations of the measuring instruments, (b) with consideration of additional pertinent non-testing information.

CHAPTER 2

A PROPOSED TESTING STRATEGY

NATURE

If school testing programs are intended to "help students learn better," those programs must measure some aspect of what is being learned (achievement) and what capacity exists for learning (academic aptitude). In addition to these basic dimensions there are several others which will be considered later in this chapter.

TEACHER VIEWS

A study reported by Bauernfeind (1968) indicates the kind of testing program that teachers prefer. Three groups of teachers in Northern Illinois were asked to rate their preferences for 41 different types of standardized test information. It was concluded that a testing program that is useful to teachers would consist of:

1. Tests of basic skills, such as reading, listening, study skills, language usage skills, arithmetic skills.
2. Measures of present attitudes, such as emotional well-being, social adjustment, attitude toward school subjects.
3. Some measure of **non-academic talents**, such as non-verbal ability, creativeness.

It is interesting to note the preferences in (2) and (3), as these express teachers' concerns for social, emotional and personal development of their students. The preference in (1) is for some assessment of learned skills in critical areas of learning.

WHAT STEPS SHOULD BE FOLLOWED IN SELECTING TESTS?

Standardized tests should be selected with the utmost of care. Pitfalls can be avoided by using a systematic selection procedure which takes into account educational objectives, the role of standardized tests in the total evaluation program, and the technical qualities most desired in educational tests. The following sequence of steps is recommended.

1. Defining Needs – It is first necessary to define specifically the type of information being sought through testing. For example all standardized achievement tests measure somewhat different subject-matter content and different aspects of knowledge, skill, and understanding. First identify the objectives and specific learning outcomes of the teaching process.
2. Narrowing the Choice – Develop a comprehensive list of objectives for a total evaluation program and then identify those specific objectives and purpose which can best be served by means of standardized tests. Decisions can be made only when the need for standardized testing is viewed in terms of the general evaluation program.
3. Locating Suitable Tests – With a general outline of the types of standardized tests desired, a list of possible tests can be compiled from Buros' **Tests in Print** and test publishers' catalogues.

   The list of possible tests to consider can be reduced to relatively few in each area by consulting critical reviews in Buros' **Mental Measurements Yearbooks**.
4. Obtaining Specimen Sets – Specimen sets should be obtained so that test manuals and test items themselves can be carefully evaluated. Test publishers generally provide specimen sets for each test they publish. **The Counselling and Guidance Branch** of the Alberta Department of Education will provide specimen sets for perusal.
5. Reviewing the Test Materials – The test manual usually provides the most complete information for judging the appropriateness and the technical qualities of a test.

   Some test manuals provide suggestions and guides for interpreting and using the results. These are especially helpful for determining the functions for which the test is best suited.

   Before making a final selection, it is also highly desirable to study the individual test items carefully. The best method of doing this is to attempt to answer each item, as if taking the test.
6. Making the Final Selection – The final choice of tests requires a careful appraisal of the strengths and weaknesses of each test in view of the intended uses of the results. This depends as much upon the goals of the school in which the tests will be used and the types of decisions for which information is needed, as upon the technical qualities of the tests themselves. The final decision must be made by persons intimately familiar with the local school situation.
7. Using a Test Evaluation Form – The entire process ot test selection will be simplified if a standard form is used when gathering information about specific tests. The following types of information are typically included in a test evaluation form:

Identifying Data:

(a) Title of test.

(b) Authors.

(c) Publishers.

(d) Date of Publication.

General Information:

(e) Nature and purpose of test.

(f) Grade or age levels covered.

(g) Scores available.

(h) Method of scoring (hand or machine).

(i) Administration time.

(j) Forms available.

(k) Cost (booklet and answer sheet).

Technical Features:

(l) Validity: Type of validity and nature of evidence (content, construct, predictive, and concurrent).

(m) Reliability: Type of reliability and nature of evidence (stability, internal consistency, and equivalence of forms).

(n) Norms: Type, adequacy, and appropriateness to local situation.

Practical features:

(o) Ease of administration (procedure and timing).

(p) Ease of scoring.

(q) Ease of interpretation.

(r) Adequacy of test manual and accessory materials.

General Evaluation:

(s) Comments of reviewers.

(t) Summary of advantages and limitations for local use.

WHAT DIMENSIONS SHOULD BE TESTED?

1. General Educational Development

It is axiomatic that the testing program facilitate student learning. In order to accomplish this goal previous learning must be monitored regularly. The phrase "general educational development" refers to progress made in different areas of learning; we often use the term "achievement" to refer to this dimension. The most frequently used standardized measure of general educational development is a battery of achievement tests.

The use of an achievement test battery is satisfactory from the end of first grade to the end of elementary school. This information, in conjunction with all other records of school achievement, should provide a comprehensive record of educational development for every student at the time of high school entrance.

Readiness tests should be used for establishing baseline data early in first grade or prior to school admission. Language development, listening skills, social development, arithmetic skills, letter recognition, etc. can be measured. These measures can facilitate **initial** groupings for instruction; the teacher must continually reorganize groups and programs as he becomes aware of student progress in curricular areas.

2. Ability (Intelligence)

The use of intelligence tests during the first year in school is not recommended. Some jurisdictions have banned their use in grade one because the measures may influence teacher expectations in a manner which is not in the best interests of the child. During the first three years in school the child should be evaluated by his progress with developmental and curricular tasks. Where learning problems are encountered, it is recommended that an individual assessment be conducted by a qualified school psychologist. The team of parents, teacher, administrator and psychologist can then coordinate their efforts to assist the child.

It is proposed that standardized group intelligence tests might be given twice during the student's school career, possibly in grades four and seven. These data used in conjunction with records of past educational development should be useful in planning learning activities for students.

At the high school level actual achievement is one of the best predictions of future success. Where necessary the school counsellor can administer intelligence measures on an individual or group basis.

3. Aptitudes

While intelligence is correctly called an aptitude (for abstract reasoning and learning), generally the term aptitude refers to less general potentialities such as verbal reasoning, clerical speed and numerical skill. Several aptitude test batteries are available; two of the best known are the Differential Aptitude Test Battery and the General Aptitude Test Battery. Many specific tests designed to measure particular aptitudes also exist and are useful in specific situations. In any event, it is recommended that aptitudes be measured in grade nine as part of the "Decision Making" guidance course, and as requested of the school counsellors by students during high school years.

4. Interests

Interests refer to areas or activities which people like or enjoy. Often we speak of vocational interests since a knowledge of these assists students in educational and vocational planning. Hence, it is recommended that an interests measure be given as part of the Grade IX guidance program "Decision Making". Also, high school students should have accessibility to such information through the school counsellor.

5. Others

School districts may wish to use additional test materials to meet specific purposes at any educational level.

A TESTING MODEL FOR CONSIDERATION

The following model designed to facilitate student learning extends longitudinally from preschool to the end of high school. An annual measure of educational development seems worth striving for since basic skills development is a primary concern of teachers. However, local considerations (resources and needs) will dictate the extensive use of this program.

A PROPOSED MODEL FOR AN INTEGRATED STANDARDIZED TESTING PROGRAM

EDUCATIONAL LEVEL	TYPE OF TESTING				
Grade	General Educational Development	Intellectual Development	Aptitudes	Interests	Other
Preschool					
1	*				AS THE NEED EXISTS
2	*				
3	*				
4	*	*			
5	*				
6	*				
7	*	*			
8	*				
9	*		*	*	
10			OPTIONAL	OPTIONAL	
11					
12					

* Proposed times of assessment

NOTE Local considerations for each of these dimensions may result in modifications in the degree to which the model is adopted.

CHAPTER 3

TESTS FOR USE WITHIN THE MODEL

The purpose of this chapter is to provide some direction in the selection of particular tests for use within the proposed model. The intent is to provide some additional information to that available in the test publisher's manual. It is recognized that the tests discussed here are not the only ones which might be considered. These, however, have been selected by the committee after extensive study and consideration of a wide range of standardized tests involving a close scrutiny of the technical data and consideration of the practical applications for use in Alberta schools.

GENERAL EDUCATIONAL DEVELOPMENT

Readiness Tests. A readiness test provides indices of learning readiness which teachers of grade one students have found useful in planning instructional programs. These tests can be administered prior to school opening or shortly thereafter. This information, used with observed learning behavior on curricular tasks, acts as a guide to teachers in establishing learning experiences for students with some knowledge of baseline performance levels. Most reading programs include strategies for continuous evaluation of student progress in basic skills areas to facilitate ongoing planning by teachers for optimal learning environments. **The Metropolitan Readiness Test** (1969 edition) is the most widely used in this province and seems to have the following advantages:

(1) It measures the extent to which school beginners have developed skills, abilities and knowledge that contributes to first grade instruction .

(2) It incorporates a variety of factors to determine readiness rather than focusing on single skill areas and for this reason is a valuable diagnostic instrument.

(3) Two forms of the test are available.

(4) Total scores and individual subtest scores can be placed on a five-level readiness continuum.

If the purpose is to obtain scores in reading readiness more specifically, the **Lee-Clark Reading Readiness Test (1962)** would be appropriate for consideration.

Achievement Tests. Standardized achievement tests represent attempts to assess students' knowledge and skills at a point in time. The wide variety of achievement tests fall into categories such as diagnostic tests, single subject matter tests, or survey batteries. The focus of concern in this report is on survey type tests which stress the measurement of basic skills.

The **Metropolitan Achievement Tests, Primary 1 Battery** and **Primary 2 Battery** are recommended for use near the end of grades one and two, respectively for the following reasons:

(1) They are meticulously constructed and standardized.

(2) Three forms are available.

(3) "Intelligence – achievement" norms and analysis are available, making it possible to relate achievement to intelligence.

The **Canadian Tests of Basic Skills** is the achievement test recommended for Grades 3 to 8 for the following reasons:

(1) Canadian and Western Canadian norms are available.

(2) "Intelligence - achievement" norms are available, making it possible to relate achievement to intelligence.

(3) A single multi-level booklet facilitates administrative ease and reduces the cost.

(4) Provides general educational development measures in major academic areas.

(5) Two parallel forms are available.

(6) It emphasizes the measurement of skills rather than particular content. This allows for flexibility in content and teaching methodology.

Other tests that have been used in this province and may be considered, are the **Standford Achievement Tests (1964)** and the **Metropolitan Achievement Tests (1962)**.

INTELLIGENCE

The selection of intelligence tests for use in a school system is determined by those factors cited on pages 2 – 3 of this publication. It should be understood that different information needs will require the use of different testing instruments. Some intelligence tests yield multiple scores, which can be useful in some situations; other tests yield a single score which can also be useful in other situations. Scoring, reporting, interpretation and testing time required will vary with the complexity of the measuring instrument.

Two of the better known intelligence tests are the **Canadian Lorge-Thorndike Intelligence Test** and the **Otis-Lennon Intelligence Test (1967)**. The Canadian Lorge-Thorndike test yields a verbal, non-verbal and composite or full-scale index; the Otis-Lennon yields a single general intelligence score, which relates well to academic achievement. The single score is a good general indicator of academic aptitude, but has the disadvantage of not reflecting other aptitudes, which can be useful in a more complete understanding a child's learning style.

Both of these instruments have found extensive use in North American school systems. Both possess acceptable technical qualities and can be considered good examples of intelligence tests at this point in time. There are numerous other intelligence tests available, which could be more useful in particular situations.

Scores derived from these tests bear a strong relationship to educational development levels and serve as a guide in instructional planning and consultation with students and parents. Where discrepancies do occur between anticipated and actual educational development for individual students, the teacher should seek consultation with resource personnel such as school psychologists, counsellors, or other learning specialists in the school system.

APTITUDES

The essential difference between achievement tests and aptitude tests is that an achievement test measures abilities a student is to have acquired as a result of some specific amount of instruction he has received in a given instructional sequence, while an aptitude test measures what a pupil has learned as a result of some more general experience and is not centered on the specific objectives of instruction for a particular course.

Aptitude tests may be placed in four major categories:

(1) General scholastic aptitude or intelligence tests.

(2) Readiness tests.

(3) Aptitude test batteries.

(4) Tests for measuring aptitude for a particular school subject.

General scholastic aptitude or intelligence tests are by far the most frequently used of the four types. However, since these have been previously discussed aptitude test batteries and subject aptitude tests will be examined.

Aptitude Test Batteries, A test of aptitude for a certain subject can be useful when a student is concerned about how well he would do in that specific subject. Often, however, the concern of the student, or of the teacher or parent, is much broader than this and concerns the student's relative aptitude for a number of possible school courses of study. Information of this nature can be helpful when the student is planning his school program and investigating possible career areas.

To meet this broader need, aptitude test batteries have been developed, composed of a certain number of subtests each of which measures aptitude for more than one course or career area and all of which have been standardized on the same normative group.

Perhaps the best known example of an aptitude test battery is the **Differential Aptitude Tests (DAT)**. This instrument is made up of eight subtests:

(1) Verbal reasoning.

(2) Numerical ability.

(3) Abstract reasoning.

(4) Clerical speed and accuracy.

(5) Mechanical reasoning.

(6) Space relations.

(7) Language usage (spelling).

(8) Language usage (sentences).

Another aptitude test which may have some value at the high school level is the **General Aptitude Test Battery**. This test is widely used in conjunction with the **Ohio Interest Survey** by Canada Manpower offices.

Tests of Aptitude for Specific Subjects. When students enter high school, decisions must be made as to whether they should enroll in certain sequenced programs of study. The student's record in related courses that he has already taken, will be useful, but a test of aptitude for a specific subject may also be of considerable help. (e.g. aptitude in foreign language, music, art, clerical skills).

The same cautions offered with respect to the use of intelligence tests are also applicable to the use of aptitude tests. It is important to remember that all these tests measure only a limited aspect of a student's potential and that many other sources of information must be given consideration.

INTERESTS

It should be clearly understood that factors such as interests, values, level of motivation, drives and energy output are important in determining how a pupil will utilize his abilities. Interests may be thought of as one of the forces that motivate activities related to learning, since they represent a tendency to select one activity in preference to something else. Consequently interests represent an important element in determining the kind of learning that occurs. Knowledge about one's interests is also important in practical problems related to educational and vocational guidance; the converse is also true. In order to standardize and normalize questions concerning likes and dislikes, interest inventories have been established. Several of these have specific uses in schools.

(a) **Kuder Preference Records — Vocational**. The Kuder is made up of 168 sets of three options. The student receives scores in the following interest clusters: Outdoors, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service and clerical. The test is suitable for Grade IX through Adult.

(b) **Safran Students' Interest Inventory**. The Safran Students' Interest Inventory is constructed in a format similar to the Kuder with the following interest clusters: Economic, technical, outdoor, service, humane, artistic, and scientific. One recommended use of the test is in conjunction with the Grade IX Guidance textbook, **Decision Making**.

(c) **Strong Vocational Interest Inventory**. This is one of the best known and most extensively researched instruments for appraising interests. This test is considered appropriate for use with students over the age of 17, who are likely to consider occupations of a professional or managerial type. Scoring is generally done by computer and the responses of the examinees are compared with the collected responses of persons currently in various occupations.

(d) **Minnesota Vocational Interest Inventory**. This test has been designed to provide systematic information on the interests of men in non professional occupations. The test may be hand or computer scored, although the former is somewhat tedious. The occupational groupings include categories such as baker, food services manager, painter and plumber.

(e) **Ohio Vocational Interest Survey**. This is a relatively new interest inventory designed to be used with students in Grades VIII — XII. The Ohio Vocational Interest Survey combines an interest inventory and a Student Information Questionnaire. The Student Information Questionnaire gathers background information about questions such as the student's expressed vocational plans, his subject area preferences and his high school program plans. The 24 interest scales represent the occupations as defined in the 1965 edition of the **Dictionary of Occupational Titles**. As in the DOT, jobs are classified in terms of data, people and things which are defined as the essential elements of involvement in a job.

OTHER

Unique information needs in particular school situations, will require the use of a variety of measurement techniques and instruments in addition to those described or recommended.

For additional information about tests, the reader is referred to the bibliography of this document. Books by Anastasia, Thorndike and Hagen, Buros and Mehrens and Lehmann, may be particularly useful.

CHAPTER 4

THE ADMINISTRATION OF STANDARDIZED TESTS

A standardized test must be administered under standard conditions if the results are to be optimally useful. The information on reliability and validity provided in the test manual does not apply unless standard conditions of administration are maintained.

1. Steps in Preparing for Test Administration:

   (a) Order and Check the testing Materials Well in Advance.

   Test materials should be ordered so that they will arrive a week or more before the test date.

   (b) When the test materials arrive, they should be checked to make certain that the correct form of the test has been sent, that there are a sufficient number of tests and answer sheets, and that all other ordered materials have been included. This is also a good time to assemble all other materials needed.

   (c) Select a Suitable Location for Testing.

   The room which provides the most favorable physical and psychological conditions for testing should be used.

   (d) Make Provisions to Prevent Distractions.

   There should be no interruptions or distractions of any kind during testing. These can usually be prevented by:

   1) posting a sign on the door.

   2) making certain that all test materials, including extra pencils and erasers, are available.

   3) making arrangements to terminate temporarily announcements over the intercom system, the ringing of school bells, and other sources of distraction.

   (e) Study the Test Materials and Practice Administering the Test. Read the test manual, take the test yourself, and administer it to some other person before administering it to a group of pupils. This familiarity with the test materials makes it possible to anticipate questions and to know the types of answers that can and cannot be given in clarifying directions.

2. Test Administration Procedure:

   (a) Motivating Pupils.

   The goal of all standardized testing is for students to perform maximally within the standard conditions set forth in the testing procedures. The purpose of testing and the value of test results should be discussed with students prior to testing.

   (b) Adhering Strictly to Directions.

   The importance of following the directions given in the test manual cannot be overemphasized.

   The printed directions should be read word for word in a loud, clear voice. They should never be paraphrased, recited from memory or modified in any way.

   The test manual must be your guide in answering students' questions. Where it is permissable to clarify directions, care must be taken not to change or modify the directions in any way during the explanation.

   (c) Keeping Time Accurately.

   If the test contains a series of short subtests which must be timed separately, it is desirable to use a stop watch when giving the test.

   Any deviation from the time limits given in the test manual will violate the standard conditions of administration and invalidate the test results.

   (d) Recording Significant Events.

   A record of unusual pupil behavior and significant events provides valuable information for determining whether test scores are representative of the pupils' best efforts and whether standard conditions have been maintained during testing.

CHAPTER 5

COMMUNICATING AND DISSEMINATING STANDARDIZED TEST RESULTS

If tests are to have their optimal effect in helping children learn better the results must:

1) be made available in an interpretable form, as quickly as possible to the appropriate personnel
2) be recorded and filed in a fashion that facilitates their use.

For each test, the test administrator must decide:

1) to whom the tests results should be distributed
2) a method of disseminating information that will be efficient and yet insure correct and adequate communication.

COMMUNICATION TO PARENTS AND STUDENTS

Generally, we believe that the individual student and/or his parents are entitled to information about the student's performance on tests that he takes in school. Although the argument that the results of tests can be misinterpreted, is valid, we feel it is the responsibility of the schools to communicate them clearly enough so that this danger will be minimized. The basic problem then becomes one of deciding how test performances scores are to be reported.

1. The Meaning and Objectives of Communication.

   What we communicate to someone else must be distinguished from what we say to him. **The message sent and the message received are often quite different**. Our problem in working with parents and students is not simply one of stating in a precise and objective manner what the tests show. Rather, it is one of assisting parents and students to comprehend and accept a picture portrayed by a set of test results. Communicating with parents who have made firm commitments for their child's future, and who may be satisfying their own needs vicariously through their child, could be very difficult.

Before suggesting specific guiding principles of communicating to parents and to students, some general objectives will be outlined. In our communication, what we wish to convey are the **general implications** of the test results. It is usually undesirable to report to parents and students exact scores on I.Q. tests. Reporting exact values may have several undesirable effects, most important of which is the possibility of misinterpretation by the parents. The report is likely to convey an impression of precision not at all justified by the basic data. To tell a child's parents that his I.Q. is 117 conveys an impression of exactness and finality quite inappropriate for our educational and psychological instruments. It ignores the standard error of the score. A test score must be thought of as representing a sample of behavior, which identifies a fairly broad range within which a child is functioning. Thus, an I.Q. of 107 for an elementary-school child, might be reported as "about average in their ability to do school work." An I.Q. of 120 could be reported as "can be expected to learn school work somewhat more easily than most". One of 85 might be expressed as "will probably have more difficulty than many children in doing school tasks". Standardized achievment scores should wherever possible be presented in behavioral terms rather than as abstract scores. For example, rather than simply reporting a score, a parent can be told, "John is able to solve problems in arithmetic which have to do with addition of figures but has considerable difficulty in understanding multiplication problems". This interpretation, in addition to being broad and general, would make parents and students more aware of specific instructional needs.

When working with tests for which the norms are given in percentiles, particular care has to be used in interpreting the results. The large middle range of percentile values does not represent a very large spread on many tests, and we need to exercise care in not overinterpreting percentile differences occuring in this range.

2. Communication of Standardized Test Results to Parents.

Today parents generally are aware that standardized tests are given periodically in our schools and that decisions are based on the results of these tests. However, these test results are often withheld from parents for lack of a satisfactory method of reporting.

Parents are entitled to information expressed in understandable terms and within the context of the limitations of test scores data related to their children's progress in school, especially as it relates to future educational or vocational plans.

The question arises as to specific techniques for reporting standardized test results to parents. Can the scores be adequately reported through written statements, or are group meetings or even individual conferences also necessary?

(a) Written reports.

Written reports to parents, although they have an advantage in that they can be carefully planned and exactly phrased, tend to be impersonal. Also, a disadvantage of the written report is that many persons have difficulty in understanding even clearly stated written communications. Thus misinterpretation can occur to the detriment of the learner.

(b) Group meetings.

Numerous subjects related to testing could very profitably be presented to parents in group meetings, such as parent-teacher association meetings. Concrete examples of interpretation at various levels of achievement can be given, with opportunity provided for discussion and questions. If parents are to be given written score reports, a well-planned group meeting could usefully precede the distribution of the report.

(c) Individual conferences.

The advantage of the individual conference is that the teacher or school counsellor communicates personally and directly. Test results can be related to other pertinent observations about the child's performance in the classroom, the degree to which he appears to be motivated and other variables such as this. **Thus it is the view of the Commmittee that test scores are best given in face to face conferences with the student or parents.** However, this may not always be practical in terms of the time required.

Perhaps combinations of all three of the aforementioned procedures for reporting results could be used to present relevent information in a meaningful way. This notion of using a combination of procedures will be further elaborated upon in the following section.

COMMUNICATION OF STANDARDIZED TEST RESULTS TO STUDENTS.

As indicated, interpretations of test scores are best given in face to face conferences. However, it is desirable to have on hand a record of performances and student characteristics that can be given to a student (or parent) to keep. Many test publishers provide a record form that has been designed to be given to students. The best of these provide a simple description of the nature and purposes of the tests, an explanation of how to interpret the reported scores, and some kind of profile for recording the student's scores.

A school could design a report form for its own students. Such a form should provide for reporting the student's standing on all important subtests of the test battery used and should provide information on the nature and purpose of the tests.

Where a satisfactory report form has been developed a teacher might consider a series of sessions in which students eventually interpret their own test results. In group sessions the teacher's role would be to prepare students for this task. He might discuss questions directly related to the test which is being interpreted. For example he might define what is meant by scholastic aptitude, an error of measurement, or a percentile rank. He might also discuss norming procedures and in particular, the norms used in the specific test being reported. This presentation could involve frequent summaries and single question "quizzes". After the students have assimilated the basic knowledge necessary for interpretation, the teacher might consider individual interviews. At these sessions the student will be shown his profile form. This might be introduced with a comment that the student study it and then tell the teacher what it means, with the teacher's role involving clarification and exploration of interpretations. Where it is apparent that incorrect learning has taken place it would seem incumbent upon the teacher to re-present the correct introductory material.

The above procedures would ensure that the interpretation was set in the frame of reference of the particular student. It would also enable the teacher to determine the degree of understanding the individual student had of the test in question.

In summarizing the procedures involved in reporting results to either parents or students, the following points need to be emphasized: First, the focus of the teacher's involvement should be on positive and constructive action. The assets in a test profile should be emphasized and remediation suggested when the achievement in a specific area falls below the expected level. Secondly, the flavour of test reporting interviews with parents or with students should be one of working with the student and his parents to realize common goals rather than one of passing judgement on him.

PRESENTING THE RESULTS OF TESTING TO THE PUBLIC.

Frequently summary information, as opposed to the scores for an individual pupil, is of concern to several key groups. The staff and administrations of schools will be vitally interested in the summary of data on various tests. Official lay bodies such as the School Boards that have responsibility for setting overall policy both in educational and budgetary matters may also benefit by this function. These groups will obviously differ in sophistication with reference to both education and educational testing and consequently will differ in the kinds of information they need. However, in spite of these differences, the general purpose of the report should be to summarize and organize the test results in order to present a meaningful picture of the accomplishments of a classroom, a school or a school district. The procedures actually followed will be dependent upon the specific questions asked. For example, the general question "How well do students in each grade of our schools perform in relation to the national normative sample?" requires only a tabulation of all scores within a grade on each test and the computation of some kind of an average score. This average score can then be compared to the norms in the test manual. Other questions that may be posed could include:

(a) A comparison of different schools in the system or of different class groups within a school.

(b) Comparison of groups that were taught in different ways or that had different curricula.

(c) Comparison of achievement in different subject matter areas.

The results of a program of testing may be presented either as written reports or orally. Most school systems will find it advantageous to use both methods, preparing a written report for permanent reference and using oral reports for effective communication with most groups.

BIBILOGRAPHY

Anastasi, A., **Psychological Testing — Third Edition**. New York: MacMillan Co., 1968.

Bauerfeind, R.H., "The Four Fallacies of Group I.Q. Testing", **School Counsellor**, January, 1971.

Brown, F.G., **Principles of Educational and Psychological Testing**. Hinsdale: Dryden Press, 1970.

Buros, O.K., **Mental Measurement Yearbook**, Gryphon Press (6th ed.) Highland Park, New Jersey, 1965.

Gronlund, N.E., **Readings in Measurement and Evaluation**. New York: MacMillan Co., 1968.

Mehrens, N.A., and Lehmann, I.J., **Standardized Testing in Education**. New York: Holt, Rinehart, and Winston, 1969.

Thorndike, R.C., and Hagen, E., **Measurement and Evaluation in Psychology and Education**. New York: John Wiley and Sons, 1969.

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